



# VIRGINIA TECH

## MA CHAPTER OF EXCELLENCE REPORT

### ACADEMIC YEAR: 2017/2018

PREPARED BY Dylan Petersen, Secretary ('17-'18)

FACULTY ADVISOR: Dr. Alan Druschitz

#### HIGHLIGHTS

- Virginia Tech students organized and ran a successful TMS Symposium
- Sixteen students were awarded twenty-one scholarships.
- Won Graduate Speaking competition
- Awarded over \$41,000 in scholarships
- Won 1st and 2nd place in MS&T Mug Drop Competition
- Tied for 1st place in MS&T Ceramic Disk Competition
- Won 1st place in MS&T Domesday Competition, 4th year in a row
- Won ASM Undergraduate Student Design Competition
- 20-30 out of 280 students attended each General Body Meeting (GBM)
- Nine students attended MS&T
- Eleven Open Foundry Days reached 327 members of our local community
- Twenty-one outreach events
- Six company interest meetings
- Eight social events

#### CHAPTER OVERVIEW

The Material Advantage Chapter at Virginia Tech (VT) is known as the Materials Engineering Professional Societies (MEPS). MEPS is a student-run umbrella organization that supports relations with all four Material Advantage organizations (ASM, TMS, ACerS, AIST), as well as the American Foundry Society (AFS) Student Chapter, the Journal of Undergraduate Materials Research (JUMR), and the Materials Research Society (MRS).

MEPS is managed by a President, Vice-President, Secretary, Treasurer, Social Chair, Publicity Chair, Outreach Chair, Professional Chair, Student Engineers' Council (SEC) Representative, and representatives from both the AFS student chapter and the Bladesmithing Team at Virginia Tech. This organization also consists of faculty liaisons and a faculty advisor (Professor Alan Druschitz).

The 2017 /2018 academic year was a big one for the organization. One of the major accomplishments was hosting the Student Run Symposium sponsored by TMS. Other accomplishments included winning the MS&T Domesday Competition, Mug Drop Competition, Ceramic Disk Competition, the Graduate Speaking Competition, and multiple scholarships. We also had a successful year with respect to career, outreach, social, and fundraising events.

Monthly MEPS meetings averaged approximately 25 students per meeting. We plan to increase the attendance this coming year through improved advertising and careful planning. Other goals include increasing awareness of scholarships and other opportunities at Virginia Tech, so that our student body may have a more well rounded experience at VT.

This report summarizes the programs, career development, service, social activities, and chapter management of the Virginia Tech Material Advantage Chapter.



## CHAPTER OVERVIEW: 2017-2018 OFFICERS & LIAISONS



(From left to right, top to bottom)

Emily Bautista, Outreach Chair; Dylan Petersen, Secretary; Randi Clayton, Treasurer;  
Joe Galligan, SEC Representative; Andrew Pfaff, President; James Mangahas, Professional  
Chair; Chauvien Bui-Huynh, Publicity Chair; Justin Yon, Vice President



### Faculty Liaisons

Dr. Alan Druschitz, *MEPS Advisor and Advisor for AFS, FEF, and Bladesmithing*

Dr. Alex Aning, *AIST*

Dr. G.Q. Lu, *IMAPS*

Dr. Hang Yu, *ASM, TMS*

Dr. Johan Foster, *MRS*

Dr. Carolina Tallon, *ACerS*

Dr. Abby Whittington, *Society for Biomaterials*

Dr. David Bai, *Nuclear Materials Society*

Dr. Rebecca Cai, *NACE*

## PROGRAMMING

MEPS conducted several workshops with many different companies ranging from consulting firms to metallurgy focused organizations. These visits allowed for students to learn more about potential career opportunities, network with professionals, and learn key professional skills. Also included was a Research Symposium where students learned about undergraduate research opportunities at VT.

### **Accenture Company Overview**

For our September General Body Meeting (GBM), two representatives from Accenture—a consulting company—came to give a brief overview of their company and offer career advice. They specialize in federal projects and are based out of the DC Maryland area. They discussed daily tasks of a consultant. Afterwards, they gave advice on how students can apply to companies and how to properly network with professionals. *(25 students attended)*

### **Deloitte Workshop**

Two MSE alumni discussed their experience of working for Deloitte, a consulting firm. They discussed their experiences of transitioning from a technical field to a more business oriented one. Finally, they discussed their day-to-day tasks working at the company. *(10 students attended)*

### **SSAB Workshop**

The Swedish steel company, Svenskt Stål AB (SSAB), presented an overview of their company and co-op opportunities, led by VT alum Myrissa Maxfield. It was of great interest for students interested in steel production and looking for a potential co-op position. *(7 students attended)*

### **PrintPack Workshop**

For our October GBM, representatives from PrintPack—a packaging manufacturer—presented a company overview and had an open discussion about how materials science relates to their company. Additionally, they also gave career advice. Specifically, they lectured about how an applicant can interview well; they gave advice about how to compose oneself during an interview and what to expect from an interview. *(20 students attended)*

### **Research Symposium**

At our November GBM, three different campus research groups—Reynold's Research Group, The Microwave Research Group, and The Corrosion Loop Group—presented an overview of their respective projects. This allowed students to learn more about potential research opportunities, and enabled them to be involved more in their studies outside of their lectures and labs. *(25 students attended)*

### **SSP Company Overview**

At our February GBM, Strategic Systems Programs (SSP) presented a company overview and presented advice and discussed experiences about working for the government as an engineer. *(10 students attended)*

### **Moog Company Overview**

A local Blacksburg company, Moog, gave a presentation about what their company specializes in and available opportunities. They are a components group that specializes in industry, medical, defense, and aerospace applications. They are always looking for students from VT interested in part-time work. *(17 students attended)*



## CAREER DEVELOPMENT

Career development is one of our key areas of focus. The events that we host or engage in expose students to unique opportunities unparalleled in other departments. Students are eager to network with professionals and learn about all areas of materials science. MEPS provides the opportunity to attend multiple conferences and interact with professionals from both academia and industry.

### **TMS 2018**

VT led the Student Run Symposium at the TMS 2018 annual conference in Phoenix, AZ. Our team of four, consisting of both undergraduate and graduate students, began last March coordinating the theme, speakers, and organizational details of this symposium. These students were Emily Bautista, Mackenzie Jones, Thomas Maulbeck, and Rose Roberts. We are proud to say that the symposium was a success.

The theme of the conference—*Looking through the Kaleidoscope: Discovering Your Path to Leadership*—sought to highlight effective leadership methods to enable students, including early-career and well established professionals, to better pursue opportunities in leadership. Specifically, it aimed to address the barriers to leadership perceived by many people and to equip current and future leaders with relevant tools to improve their own leadership skills. The symposium focused on empowering the audience with comprehensive insight into the multiple facets of leadership, allowing attendees to build their own leadership repertoires and incite change in leadership roles and techniques.

Our speakers included TMS Directors, George Spanos and past President Tresa Pollock; industry professionals, Karen Maud from GE Power and David Hall, an entrepreneurial VT Alum; and several other professionals as well.

The symposium was positively received by all who attended, and our planning knowledge is currently being passed to next year's organizers, the University of Michigan. In addition to this symposium, the planning committee also participated in the Materials Bowl and were able to advance to the semi-final round. All of these experiences have given students immeasurable networking opportunities, professional development, and organizational skill enhancements.

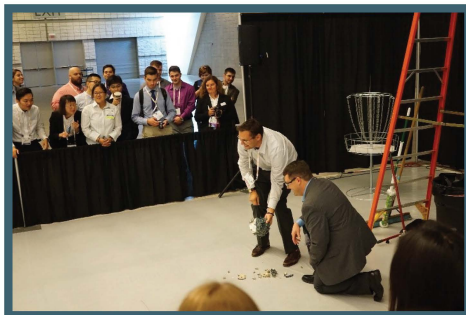
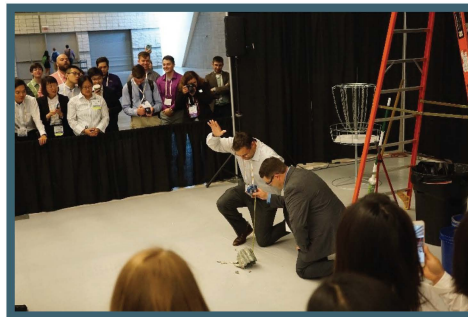
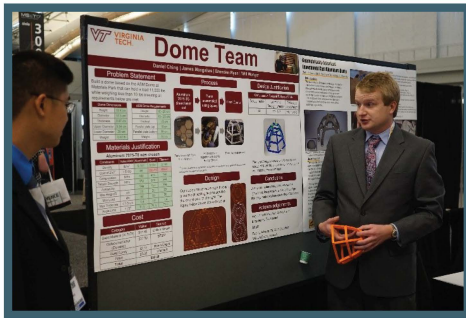
### **VT Engineering Expo**

MEPS is a registered student organization with the university and an independent organization affiliated with Student Engineers' Council (SEC). Each fall, the SEC hosts the Engineering Expo, one of the largest career fairs in the country, to provide a venue for networking and interviewing. Here, students are able to apply to internships, full-time positions, and co-ops. This year, as with previous years, MEPS officers volunteered at the Engineering Expo as both a chance to provide service and to network with company recruiters. In addition, lists were provided to the student body that stated which companies were searching for materials science students.

## CAREER DEVELOPMENT

### MS&T 2017

This year, nine students from VT participated in several student competitions held at MS&T 2017 at Pittsburgh, PA. We competed in the Ceramic Disc Competition, the Ceramic Mug Competition (both the drop mug and the aesthetic mug), the Domesday Competition, the Student Speaking Competitions, and the Undergraduate and Graduate Poster Competitions. We won 1st place in the Domesday Competition, 1st and 2nd place in the Mug Drop Competition, and tied for 1st place in the Ceramic Disc Competition. Two of our students were presented with scholarships, and one other student made a technical presentation. MEPS also participated in the VT, NC State, and Clemson Reception; the students from the three universities networked with faculty, alumni, and other students during the reception. It was a wonderful opportunity for interschool networking, establishing potential future collaboration, and increasing camaraderie amongst students and faculty. Finally, three of our board members, Andrew Pfaff, Justin Yon, and Emily Bautista, attended the MA Student Leadership Training session; they learned a lot about effective leadership skills.



Photos from MS&T 2017

### Scholarships

This year, MEPS students were awarded over \$41,000 in scholarships. These scholarships included AFS, FEF, and HH Harris, TMS, AIST, and ASM.

## SERVICE

Over the past year, MEPS has been heavily involved in outreach and service activities for students and the community. While many of the events that MEPS organized were focused on gaining student interest in MSE, some were also geared towards providing service to the community and increasing STEM outreach. With these efforts, MEPS students have been able to exemplify the school motto, Ut Prosim (That I May Serve).

### ***Community Service Events***

#### **Humane Society of Montgomery County**

MEPS officers and other MSE students volunteered at the Humane Society of Montgomery County on two different days, where they socialized with both cats and dogs in an effort to assist the facility with its daily needs. It was a great time for both the students and the animals! It allowed for the animals to gain experience interacting with humans.

#### **Virginia Tech Relay for Life**

Relay for Life is an opportunity to raise awareness and money for the fight against cancer. Virginia Tech Relay for Life has been the largest collegiate relay for the last couple of years. This year was no different, as VT Relay raised \$464,000 for the American Cancer Society. MEPS is proud to have had students participate in a MEPS specific team and donate money to the cause.



### ***STEM Outreach Events***

#### **Kids' Tech University (KTU)**

MEPS participated in KTU—a university sponsored event—where, during three hours, 300+ kids cycled through the event hall, in which we had a booth with oobleck (water and cornstarch), polymer beads, and past winning domes/mugs from MS&T conferences. It was an exciting way for kids to discover what MSE is, and they absolutely enjoyed playing with the demos! It is always a blast to see the kids' reactions with regards to oobleck and the polymer beads. Explaining the concepts behind the domes and mugs is always a great time too. It is a great way to introduce students to the field of material science by showing them that we exist and that we do really cool activities.

## SERVICE

### Mason's Cove Elementary School STEM Night

MEPS members and MSE ambassadors traveled to Mason's Cove Elementary School in Roanoke to volunteer for a two-hour STEM outreach event. Elementary students, grades kindergarten through 5th, were demonstrated various materials science concepts through the use of oobleck, polymer beads, domes/mugs from previous competitions, and foundry in a box—a simple foundry demonstration activity. A discussion of interesting materials applications also occurred. Through our booth, they were exposed to MSE and possible STEM career paths at a very young age. This event is also the first time we had a junior MSE ambassador—a fifteen-year-old female high school student. She volunteered at the STEM night. This just shows involvement can begin at a very young age.



Mason's Cove Elementary School STEM Night

### Kindergarten 2 College (K2C)

A one-day one-hour event, at which a local elementary school came to VT. We presented an intro to MSE and concluded with MSE demonstrations including oobleck, polymer beads, the ceramic mug, and past MS& T domes.

### Kit Donation

The MEPS officers purchased and donated an ACerS Materials Kit for the local Blacksburg high school. We plan on continuing to build a partnership with students there.

### VT MSE Departmental Information Night

Every fall and spring semester, the College of Engineering requires all departments to host open house events for freshman engineering students so that they can learn about all fourteen engineering majors offered at VT. These are the largest recruitment events for MSE. Both MEPS members and MSE Student Ambassadors volunteer to run the demonstrations and information sessions during these events. These sessions include lab tours, demonstrations, and professor presentations/discussions for the freshman students. The freshman students are free to tour the multiple material science labs, in each of which volunteers give a short presentation and answer any questions from the freshman students. Professors stop by and talk with the students as well. Included are the usual materials science demonstrations.

## SERVICE

### Open Foundry Days

We host two types of Open Foundry Days; one is for specific groups and the other is open to the public. At these events, we start with a short presentation on metal casting and then we send everyone into the foundry to make a mold, watch VT students pour the mold in gray cast iron, watch the cleaning of the casting, and then, everyone gets to take their casting home.

We hosted 117 students from the New River Valley summer camp (elementary through high school), Green Valley Elementary school, four groups of high school girls with an interest in engineering, and two groups of high school girls that have been accepted in the College of Engineering this year.



Non-Virginia Tech students attending a foundry outreach activity

We also hosted 210 members of our local community at three Open Foundry Day public events. The events start at 10 am and run until 3 pm. However, the student workers arrive at 8 am to get everything ready and don't leave until about 5 pm, after everything is cleaned up.

### Foundry-In-A-Box

Last year, the AFS Piedmont Chapter gave us a Foundry-In-A-Box kit so we could take metal casting to the local community. This year, we ran Foundry-In-A-Box demonstrations at Eastern Montgomery County High School, Christiansburg High School, and Blacksburg High School. These demonstrations were attended by over 75 high school students.



## SOCIAL ACTIVITIES

In order to stimulate membership, we hosted many social events, which encouraged student camaraderie and allowed students to relax and take a break from school work.

### **VT Football Tailgate**

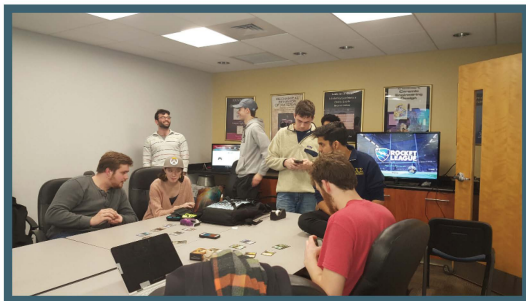
For the Clemson game at VT, we decided to hold a tailgate! We had pizza, refreshments, and many fun games to play such as corn hole. Quite a few people came and had loads of fun!

### **Casino Night**

MEPS sponsored the first ever MSE Casino Night! At the event, we had games such as poker, Texas Hold 'em, and various dice games. Players were given a set amount of play chips at the beginning of the event. From there, they attempted to win as much as they could. Those with the most "money" won bragging rights!

### **Video Game Tournament**

This year, we decided to hold our first video game tournament! The brackets were of Super Smash Bros and Rocket League. The two winners each won a \$15 cashiers check to spend at a local restaurant in Blacksburg. This event had a great turnout; it was by far the most successful one yet, with approximately twenty students participating.



MEPS Game Tournament

### **Chili Cook Off**

The 3rd Annual Chili Cook Off was held in the middle of April. Seven participants made their own unique chili recipe which was then judged by the student body based on the categories of best veggie chili, best meat chili, best overall, and spiciest. It was a great way for MSE students to demonstrate their cooking skills, and for others to eat some great tasting chili! Winner won bragging rights.

### **Faculty Auction and Potluck**

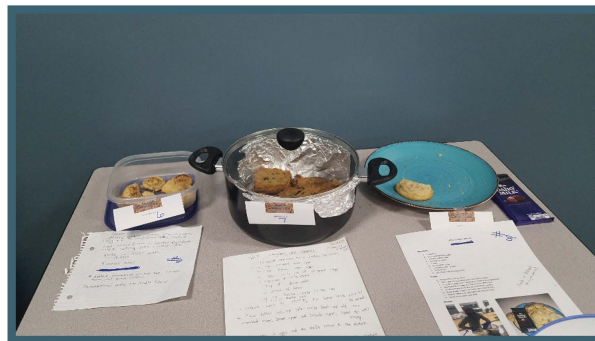
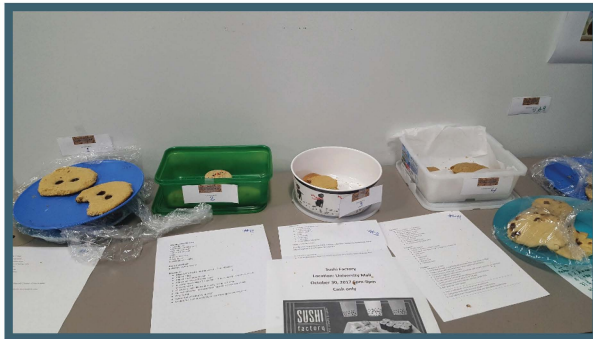
The Holiday Potluck and Faculty Auction are annual traditions. For the faculty auction, faculty volunteer themselves with a proposed activity and students fill out a silent auction in order to win that faculty and activity. This year we saw the highest winning bid yet, at \$120.

The faculty auction was conducted at the Annual MSE Holiday Potluck. Everybody brought snack items to share and participated in fun activities. Such activities included jeopardy, 3 truths and a lie, and a photo booth. It was the perfect way to end the semester.

## SOCIAL ACTIVITIES

### Cookie Bake Off

This was an MSE cookie competition! Each student was required to bake cookies, using a predetermined list of ingredients. The stipulation was, however, that the students had to create their own recipe. Essentially, they determined the ingredient ratios and baking method for their respective cookies. This was to demonstrate an essential concept in MSE: processing. Materials could be made from the same components, but depending on the proportions and processing techniques, wildly different results can occur.



Cookies from the Cookie Bake Off

### MSE Munchie Mondays

MSE Munchie Mondays is a new program started this year. Every Monday, snacks were provided in our MSE lounge for all MSE students to enjoy. It was decided that the Publicity Chair would be in charge of acquiring the food. This is also a time used to advertise upcoming events as well. It helps bring the MSE community closer together.

### Catan Tournament

The board game of Catan has become a major tradition here at the MSE department at VT, so we decided to make a tournament out of it! There were two separate tournaments: grads and undergrads. There was also a total of three rounds for each one.

## CHAPTER MANAGEMENT

Each MEPS officer is required to be an MA member. At the beginning of each academic year, the MEPS officers strongly encourage all MSE students to join Materials Advantage. The students are informed about the organization and its benefits by both officers and faculty.

### **Elections and Transition**

Elections for this academic year's officers (2017-2018) were held in March of 2017, thus allowing time for appropriate recruitment and transition. Before elections occur, they are announced and nominations accepted. Students are allowed to nominate themselves at the elections meeting as well. Beforehand, current officers recruit to ensure positions are filled.

At the meeting of the elections, position runners were asked to speak for approximately five minutes about their platform. Afterwards, they were asked to step outside, and everyone in attendance voted.

After the new board had been established, a transition meeting was held where past and future officers discussed in detail the procedures for their positions. New officers were encouraged to attend weekly officer meetings for the rest of the semester, and the newly elected president began to organize and plan the next year's strategic mission. Upon returning for the fall semester, he then presides over the first board meeting of the semester, in which the schedule and activities are discussed.

This following academic year's elections(2018-2019) were, once again, held in March, and the same transition process was followed. However, in addition, each former officer was required to write a transition report, detailing their position's requirements, duties, and procedures.

### **Positions**

The primary positions include President, Vice-President, Secretary, and Treasurer. Other elected positions include Social Chair, Publicity Chair, Outreach Chair, Professional Chair, and SEC Representative. Each officer is responsible for reporting to the President who in turn reports to our faculty adviser.

### **President**

The President presides over all meetings and assumes all executive duties not delegated to others via the bylaws. His or her responsibility is to ensure the chapter is operating and that all other officers are doing their jobs and designated tasks.

### **Vice-President**

The Vice-President's primary objective is to organize and preside over all aspects of MS&T, such as the budget, travel accommodations and the organization of the design teams. In addition to MS&T, he or she provides assistance in duties delegated by the President.

In the absence of the President, he or she presides over the meetings. In the case of the absence of the Secretary, he or she will take the minutes for the meeting.

### **Treasurer**

The financial matters of MEPS are handled by the Treasurer. He or she is in charge of tracking organizational funds and officer budgets, spearheading fundraising events, requesting funds from the Student Budget Board (a VT funding organization), and processing any reimbursements necessary.

## CHAPTER MANAGEMENT

### **Secretary**

The Secretary is tasked with recording the minutes at each officer meeting and General Body Meeting. In addition, he or she also distributes announcement emails to the entire MSE student body and is in charge of the writing of the Annual Report and other reports as necessary.

### **Publicity Chair**

The Publicity Chair oversees the making and posting of posters/advertisements, updating the MEPS Google Calendar with events, posting GobblerConnect events (the VT student organization management site), and managing the MSE social media page. His or her position is also responsible for acquiring the snacks for Munchie Mondays along with posting updates during this time.

### **Professional Chair**

The Professional Chair organizes company visits, tours, and study sessions at the request of students. He or she is responsible for contacting companies, communicating with them, and scheduling times for them to visit.

### **Outreach Chair**

The Outreach Chair coordinates at least three outreach events each semester. This includes, community service, STEM outreach events and MSE recruiting events.

### **Social Chair**

Monthly social events are organized by the Social Chair. The goal is to make fun and interesting events that students will want to come out to. These events encourage bonding within the MSE community.

### **SEC (Student Engineers' Council) Representative**

The SEC Representative is the delegate for the SEC. He or she attends all General Assembly Meetings (GAMs), and presents a budget request twice a semester. He or she is also in charge of organizing volunteering for Engineers Week and other SEC events.

### **Meetings**

#### **Officer Meetings**

Officer meetings were held bi-weekly instead of weekly this year. During these meetings, officers reported updates about their duties. The Secretary took detailed notes at each meeting; these detailed notes are made available to all MEPS members in the shared Google Drive folder.

#### **General Body Meetings (GBMs)**

General Body Meetings are monthly meetings at which food and refreshments are provided. Typically, the President begins with his or her announcements to the student body and other officers are given the chance to do the same. If a speaker is attending the meeting they are given priority for when they would like to speak. At the end of each meeting, questions are fielded by both company representatives and officers.



## CHAPTER MANAGEMENT

### Organization

Virginia Tech uses Google Apps; thus, a single calendar and collaborative file system are utilized amongst the officers, allowing for streamlined handling of information. A shared Google Calendar is created each academic year, allowing all officers and members to have a single updated calendar in which they can see all upcoming events. A shared Google folder in Google Drive is used to hold all officer documents. GroupMe messaging app is also utilized as the primary form of communication amongst all the officers.

### Funding

Before the start of each academic year, newly elected officers and other organizational representatives fill out a Google spread sheet stating activities, required funds, and funding sources for the coming academic year. This is used to create a Budget Request Report which is used to ascertain how much funding will be needed. Once money has been allocated to the organization, the Treasurer will then allocate each officer a budget for them to spend at their discretion related to their position.

### Improvements for Next Year

The MEPS board is always looking for ways to improve the organization. Items on our list include increasing the number of successful fundraising events, bolstering interest from the student body, especially from the sophomores, improving communications and increasing representation from each organization within MEPS, and increasing attendance at GBMs. Other such items include increasing interest for lab tours and study sessions as organized by the Professional Chair. Finally, we want to increase knowledge of known opportunities for the students as we feel there might be a discrepancy between what the student body knows and what is out there.

## SUMMARY

The Virginia Tech Material Advantage Student Chapter had a great year and has demonstrated continuous improvement. The Virginia Tech Material Advantage Chapter has all of the attributes of a Chapter of Excellence; we have student run programming activities that help our students understand the needs and wants of the materials community, career development activities that bring our students to industry and industry to our students, we participate in a variety of service activities on and off campus, we have introduced a number of social activities to bring our students together in a stress-free environment, and our Chapter Management is strong.



# LETTER OF SUPPORT: DR. ALAN DRUSCHITZ



**VirginiaTech**

College of Engineering

**Materials Science & Engineering Department**  
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540/231-6640 Fax: 540/231-8919  
[www.mse.vt.edu](http://www.mse.vt.edu)

May 30, 2018

To: Materials Advantage

RE: Faculty Advisor Letter of Support

It is a pleasure for me to write this letter of support to be included with the Virginia Tech Materials Advantage Student Chapter annual report for the 2017/18 academic year. This was another exciting year for our chapter. Our Chapter President, Andrew Pfaff, and the Chapter Officers did an outstanding job bringing together our various professional societies. I had the privilege of continuing the role of faculty advisor and watching our MA student chapter officers, under the leadership of Andrew, continue to improve the organization and operation of our chapter. We also thank the Virginia Tech Department of Materials Science and Engineering for helping fund the TMS Student Run Symposium.

Our Chapter is actively organizing plant tours & meeting speakers, working on outreach activities for elementary, middle, & high school students and Virginia Tech undergraduate students, participating in professional society meetings (MS&T, TMS, AFS), hosting social events, and providing service to our local community. More specifically, six companies took the time to visit our campus and made presentations to our students, we ran three STEM outreach events at our local community schools, our students attended three major professional society conferences, we hosted eight social events, and we did two community service projects.

Highlights of our Chapter activities include the following: 1) at the request of the TMS Education Committee, Virginia Tech students organized and ran a student sponsored symposium at TMS 2018, 2) we purchased an ACerS Materials Kit and donated it to our local High School, 3) one of the MSE Department senior design teams won the ASM undergraduate student design competition, 4) for the fourth year in a row, Virginia Tech students won first place in the ASM Domesday competition, and 5) Virginia Tech materials engineering students were awarded over \$41,000 in scholarships during the 2017/18 academic year.

The changes to our officer election process made two years ago (moving it to earlier in the semester) have been very beneficial since it gave the new and old officers plenty of time to get together, talk about how the chapter operates, what is in progress, what needs to be done and, most importantly, how to things get done. This simple change has had a significant impact in producing a smooth transition since the new officers have ready access to the expertise and experience of the past officers. And the organizational changes continue as we learn what works and what we need to do better; this year we changed the bank account signatures before the semester ended to insure that the Chapter has uninterrupted access to funds.

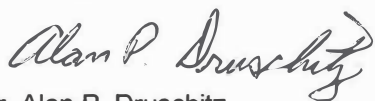
I am sure that you will agree that the Virginia Tech Materials Advantage Student Chapter had a great year and is demonstrating continuous improvement. The Virginia Tech Materials

*Invent the Future*

## LETTER OF SUPPORT: DR. ALAN DRUSCHITZ

Advantage Chapter has all of the attributes of a Chapter of Excellence since we have student run programming activities that help our students understand the needs and wants of the materials community, career development activities that bring our students to industry and industry to our students, we participate in a variety of service activities on and off campus, we have introduced a number of social activities to bring our students together in a stress-free environment, and our Chapter Management is strong.

Sincerely,



Dr. Alan P. Druschitz  
Associate Professor, Department of Materials Science and Engineering  
Materials Advantage Chapter Faculty Advisor  
Virginia Tech  
540-315-5198  
adrus@vt.edu

ASM Member No. 020389 (since 1975) – Chair Handbook Committee  
TMS Member No. 435572 (since 2004)  
AIST Member No. 124045 (since 2008)  
ACerS Member (since 2014)